

Introduction to Asthma



**Indoor Environments Division
Environmental Protection Agency**

Topics Covered

- **What is asthma?**
- **Who is most at risk to get asthma?**
- **What does the indoor environment have to do with asthma?**
- **How can you reduce exposure to indoor asthma triggers?**
- **What can I do to help educate others about indoor asthma triggers?**

What Is Asthma?

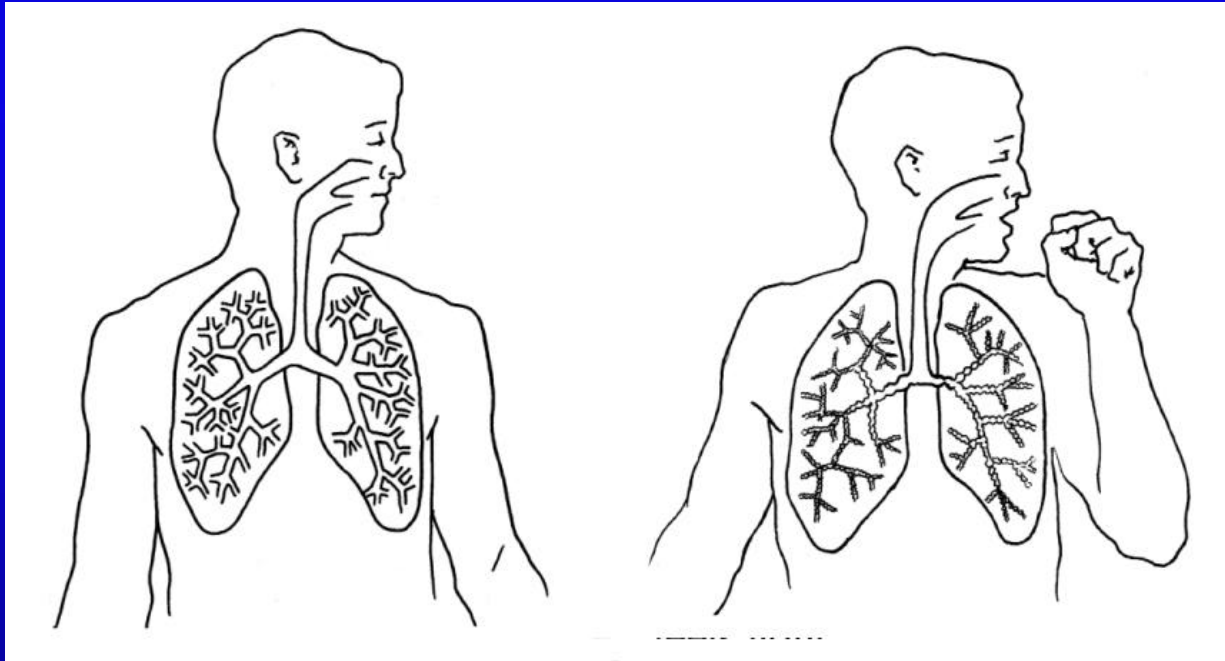
- **Chronic inflammatory disorder of the airways**
- **Usually reversible, but not yet curable**
- **Not the same as allergies**
- **Not contagious**

What Does An asthma episode feel like?

- Jog in place for 2 minutes
- Place a straw in your mouth and breathe only through the straw by pinching your nose closed
- How do you feel?

What Happens During an asthma episode?

Airways narrow, caused by:



- **tightening of the muscles that surround the airways**
- **swelling of the inner lining, and/or**
- **increase in mucus production**

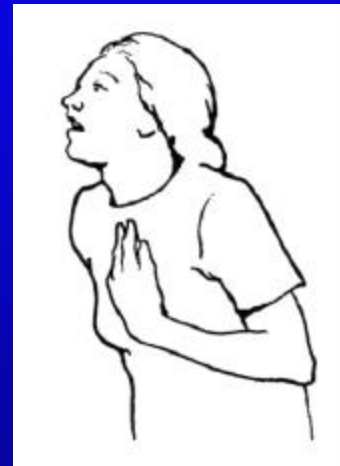
Two parts **Two parts** *of asthma*

Noisy

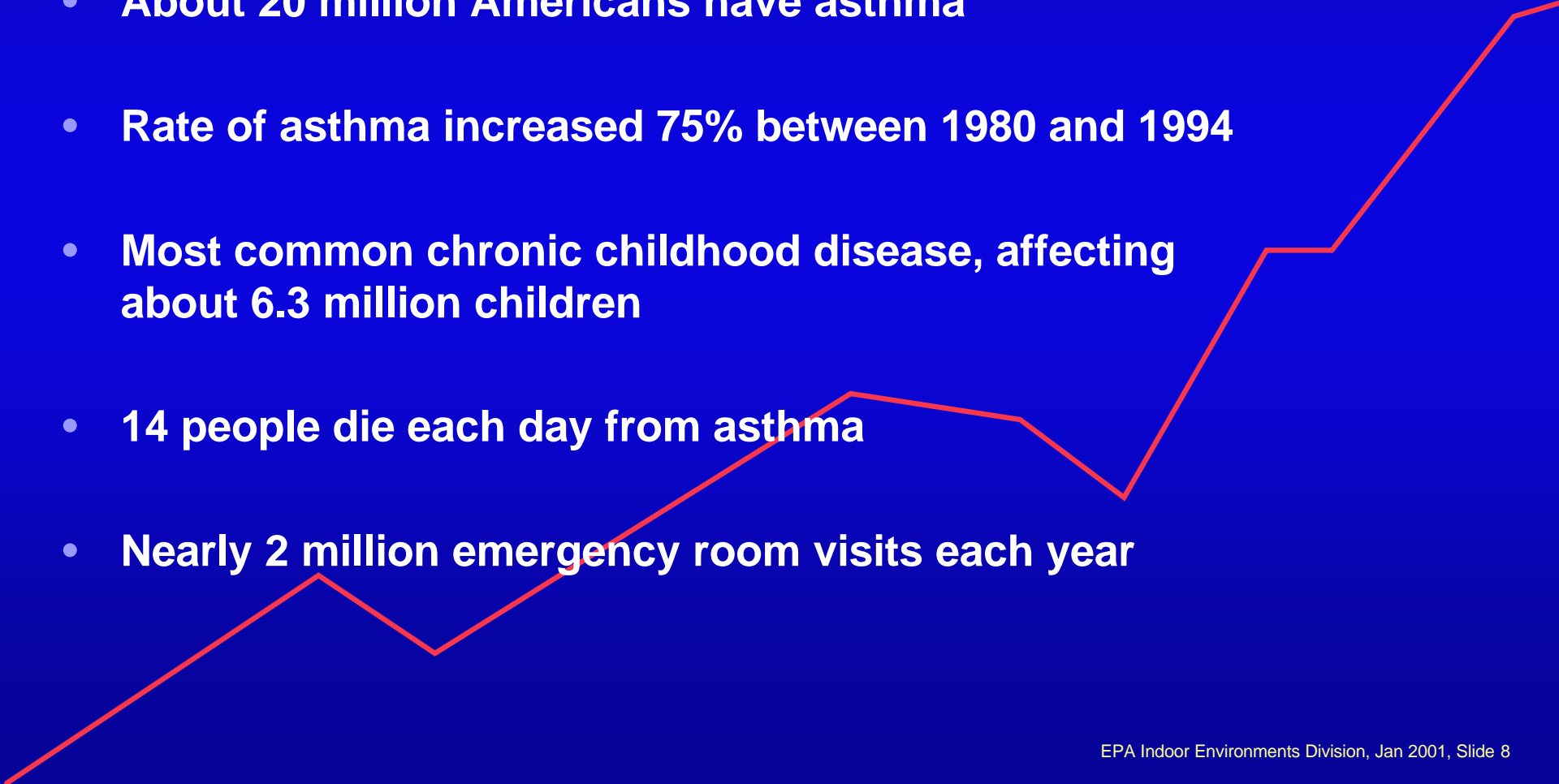
Quiet

Asthma SYMPTOMS

- Coughing
- Wheezing
- Chest tightness
- Shortness of breath



Asthma Facts

- About 20 million Americans have asthma
 - Rate of asthma increased 75% between 1980 and 1994
 - Most common chronic childhood disease, affecting about 6.3 million children
 - 14 people die each day from asthma
 - Nearly 2 million emergency room visits each year
- 

Who is *most at risk* to suffer from asthma?



- **Children**
- **Low-income, urban residents**
- **Some minorities**
- **Allergic individuals**
- **People with hereditary disposition for asthma**

Managing Asthma

Consult with your physician to develop an asthma management plan, which includes:

- **Medication**
- **Identification of your asthma triggers & ways to reduce/avoid exposure to your asthma triggers**
- **Peak flow monitoring**
- **Emergency plan**

Common asthmaTriggers

- Allergens
 - *molds, dust mites, cockroaches, animal dander*, pollens, foods
- Irritants
 - *secondhand smoke*, strong odors, aerosols, volatile organic compounds, ozone, particulate matter
- Other
 - Viral respiratory infections
 - Changes in weather (cold air, wind, humidity)
 - Exercise
 - Medication
 - Endocrine factors (menstrual period, pregnancy, thyroid disease)

** 5 major indoor asthma triggers*

What does the **Indoor Environment** *have to do with* **Asthma?**

- **All of the common asthma triggers are found indoors**
- **Americans spend about 90% time indoors**
- **Reducing exposure to indoor allergens and irritants can reduce asthma symptoms**
- **Prevention is an important asthma management tool**

Most common Indoor Environmental Triggers

Secondhand Smoke

Dust Mites

Mold

Pets

Cockroaches

Secondhand Smoke



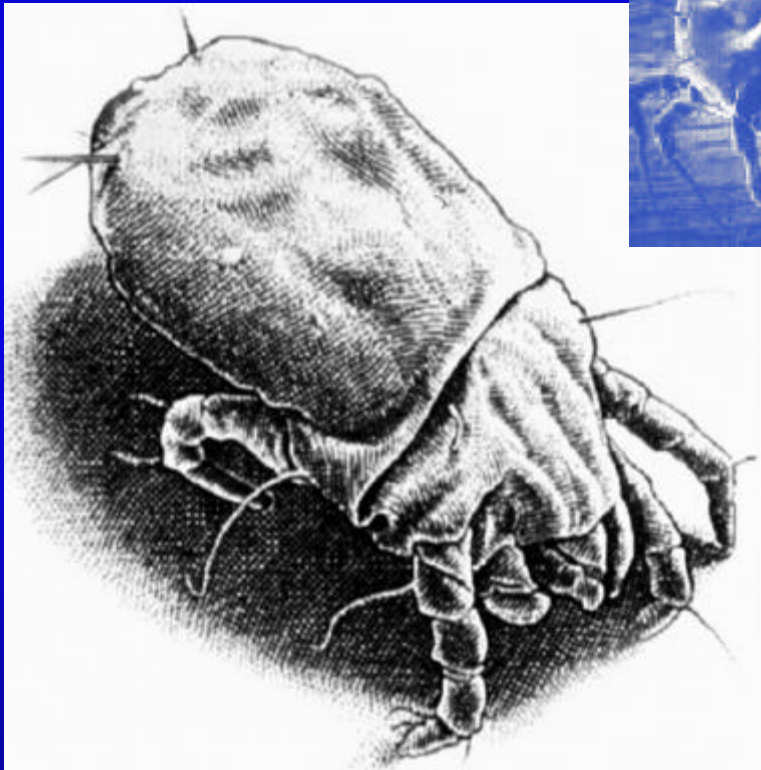
- **Contains more than 4,000 substances (over 50 are carcinogenic)**
- **Is particularly harmful to young children**
- **Can trigger asthma attacks and cause young children to develop asthma**

Avoiding Secondhand Smoke

**Choose not to smoke in your home or car
and do not allow others to do so either**



DUST mites



- Found in most homes
- Live in soft bedding
- Feed on skin flakes
- Mites and mite droppings can be asthma triggers
- Can cause children to develop asthma

Avoiding dust mite Triggers

- **Wash sheets and blankets once a week in hot water**
- **Choose washable stuffed toys, wash them often in hot water, and dry thoroughly -- keep stuffed toys off beds**
- **Cover mattresses and pillows in dust-proof (allergen-impermeable) zippered covers**
- **Vacuum often (when asthmatic is not present)**
- **Maintain low indoor humidity, ideally between 30-50%**

PeTS



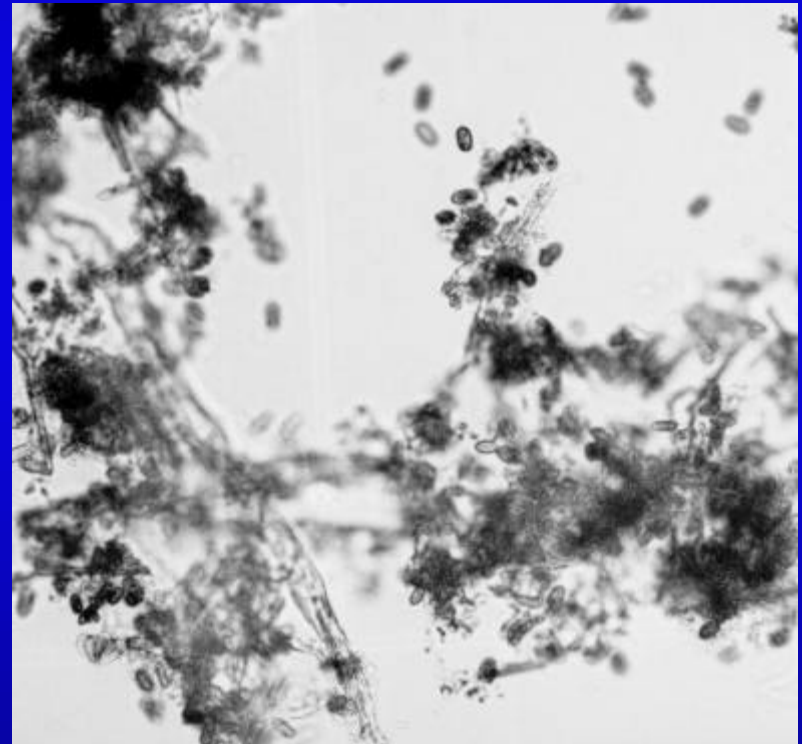
- **Skin flakes, urine, and saliva of warm blooded animals can be asthma triggers**
- **Triggers can remain in the home for several months after a pet is removed, even with cleaning**

Avoiding ^{pet} Triggers

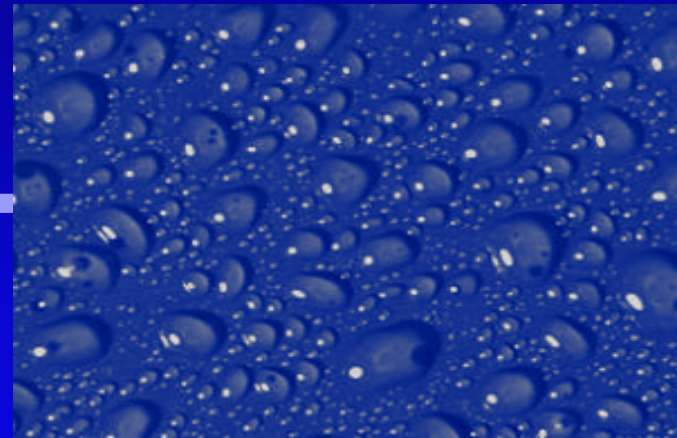
- Consider keeping pets outdoors or even finding a new home for your pets, if necessary
- Keep pets out of the bedroom and other sleeping areas at all times, and keep the door closed
- Keep pets away from fabric-covered furniture, carpets, and stuffed toys
- If you remove an animal from the home, clean the home thoroughly

Molds

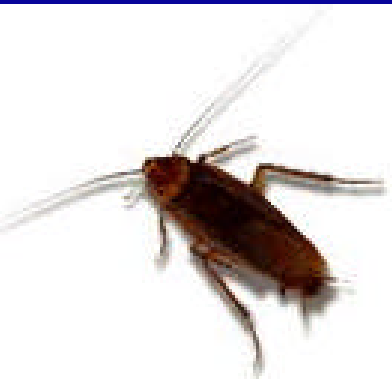
- Can be found almost anywhere and can grow on virtually any damp substance
- Key to mold control is moisture control
- Clean up the mold and get rid of excess water or moisture
- Reducing moisture also helps reduce other triggers, such as dust mites and cockroaches



Avoiding Mold Triggers



- Wash mold off hard surfaces and dry completely
- Absorbent materials (ceiling tiles and carpet) may need to be replaced
- Fix leaky plumbing or other sources of water
- Keep drip pans in your air conditioner, refrigerator, and dehumidifier clean and dry
- Use exhaust fans or open windows in kitchens and bathrooms when showering, cooking, or using the dishwasher
- Vent clothes dryers to the outside
- Maintain low indoor humidity (between 30-50% relative humidity)



Cockroaches

- **Droppings or body parts of cockroaches can be asthma triggers**
- **Cockroaches likely contribute significantly to asthma problems in inner city area**
- **Free your home of places for pests to hide and sources of food and water**



Avoiding

Cockroaches

- Do not leave food or garbage out
- Store food in airtight containers
- Clean all food crumbs or spilled liquids right away
- Try using poison baits, boric acid, or traps first before using pesticide sprays
- If sprays are used:
 - Limit the spray to infested area
 - Carefully follow instructions on the label
 - Make sure there is plenty of fresh air when you spray, and keep the person with asthma out of the room

Resources *and* Information

Environmental Protection Agency Asthma Website		www.epa.gov/asthma
EPA Indoor Air Quality Information Clearinghouse	(800) 438-4318	
Allergy and Asthma Network/Mothers of Asthmatics	(800) 878-4403	www.aanma.org
American Academy of Allergy, Asthma and Immunology	(800) 822-2762	www.aaaai.org
American Lung Association	(800) LUNG-USA	www.lungusa.org
Asthma and Allergy Foundation of America	(800) 7-ASTHMA	www.aafa.org

REPORTS

<u>Clearing the Air: Asthma and Indoor Air Exposures</u> , National Academy of Sciences	http://books.nap.edu/books/0309064961/html
<u>Guidelines for the Diagnosis and Management of Asthma</u> , 1997, National Asthma Education and Prevention Program	(301) 592-8573

Getting Others To Take Action

- **Take the recommended actions, and encourage others to do so too**
- **Smoke-Free Home Pledge (800) 513-1157**
- **Indoor Air Quality Tools For Schools (800) 438-4318**
- **Secondhand Smoke Community Action Kit (800) 438-4318**
- **ALA *Open Airways* for schools (800) LUNG-USA**
- **ALA *A is for Asthma* in local Headstart or daycare center**
- **AAFA Childcare training**